

THE IMMIGRATION OF LEPIDOPTERA TO THE  
BRITISH ISLES IN 1984

By R. F. BRETHERTON\* and J. M. CHALMERS-HUNT\*\*

*(continued from p.145)*

*Agrotis ipsilon* showed a very curious pattern. From April 17 to May 8, 78 were found in traps in twelve places on the coast from Cornwall, and Sussex to Westmorland, Yorkshire and Orkney, as well as several inland, indicating a large and widespread immigration. Half of these, however, were at Portland Bird Observatory, and the continuation there and in a few places elsewhere of occasional records later in May and into June suggests a possibility that these and some of the early total may have resulted from overwintering larvae. Thereafter the numbers reported at continuously operated traps were very much smaller than usual, though there appear to have been small influxes, as with other species, in late July, mid August, and late in September and October. There seem to have been also local emergences in the later months, and the last was seen at Muston, South East Yorkshire, on December 8. But in most places for most of the year it was regarded as a rare species.

*Peridroma saucia*, first seen at Portland B. O. on May 10, was also scarce until the autumn. Monthly totals of dated records are May (2), June (3), July (10), August (8), September (6), October (31), November (17). The last were at Bradwell-on-Sea, South Essex, on December 1 and 12. Though always few, the spread was wide: in 19 vice counties, reaching Westmorland and South East Yorkshire and Orkney on the coasts and Surrey, Middlesex, Berkshire, Warwickshire and Rutland inland. It seems to have been common in Guernsey, but only two were seen at Fountainstown, co. Cork in Ireland.

*Autographa gamma* was as usual the commonest immigrant moth, but certainly in below average numbers. After the first at Portland B.O. on April 8, it was seen widely, but usually only singly until early July. There were fair numbers in mid July, when it reached Caithness and Orkney, and the first large invasion from July 26/30. An influx which consisted almost entirely of the dwarf *f. gammina* occurred in South Devon on August 5, and peak totals of 212 and 138 were counted at Portland B.O. on August 11 and 13, and 262 and 301 on August 21 and 24, after which numbers fell sharply. On September 8th there were 40 very large and dark specimens, probably locally bred, at Rogate, West Sussex; but there were further large invasions in the last days of September and again

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at the end of October, possibly also in the first week of November. It was last reported at Hayling Island, South Hampshire, on December 18 and 19.

*Nomophila noctuella* was first noted on May 5 in the Isle of Canna and last at Peacehaven, East Sussex on November 12. It was everywhere very scarce and usually seen only singly; only one of the regularly operated traps, even those on the coast, reported more than a dozen in the whole season. Monthly totals were May (1), May (1), June nil, July (45), August (44), September (31), October (7), November (1). The most northerly records came from Flamborough Head, South East Yorkshire and Beetham, Westmorland; inland only from Surrey, Berkshire and a single from Ledbury, Herefordshire on September 7. In Ireland three were trapped in July at Roundwood, co. Wicklow, but at Fountainstown, co. Cork only four were seen from August 16 to October 10. In Guernsey six were noted in the last half of July and one in August.

*Udea ferrugalis* did considerably better than *N. noctuella*. The first was seen at Trebrowbridge, East Cornwall on January 6: a tribute to the mild winter. No more were seen until mid July, after which numbers rose steadily to a high level in late October and November, immigrants being probably supplemented by local emergences. The last was trapped at Wisley, Surrey on December 3. Monthly dated records were January (1), July (36), August (25), September (72), October (113), November (100), December (2). Most of the records came from the south coast, especially from Cornwall and Sussex; but 20 were disturbed by day in the Isle of Sheppey, north Kent, 176 in South Essex, and it was seen in small numbers in Lincolnshire, South East Yorkshire, Carmarthenshire and Westmorland. Inland, there were some at four places in Surrey, in some numbers in Berkshire, and singly at Hampstead, Middlesex and Ledbury, Herefordshire. In Ireland there were very small numbers at Roundstone, Riverstock and Fountainstown in co. Cork; in Guernsey it seems to have been plentiful.

*Plutella xylostella* is often overlooked, but it was clearly not common. The few records, beginning with one at Ledbury, Herefordshire on April 22, coincided in date with other immigrants; but there were no indications of any large invasion. A few were seen in Orkney on June 6, and in two places in the Isle of Man on August 23.

*Phlogophera meticulosa*, which is both immigrant and resident, was fairly numerous and regular, except in August, throughout from April to late October. The regularity, which resulted from good larval survival during the mild winter and from later breeding, disguised the effects of probably several immigrations, of which at least those in late September and in October seem to have been considerable.

The reasons for the startling contrast in the abundance of immigrant species in 1983 and 1984 are not clear. Except for the much colder weather in May and June the domestic weather patterns for the two years were similar: mild winters, long periods of warmth and drought through July and August, much rain and disturbed weather in September and October, and a mild spell in early November. But in 1984, after a false start in April, the immigrations came later and, though they were frequent, they contained much fewer individuals and lacked variety of species. This suggests that, except perhaps at the end of July, they came from western Europe, where the season was later even than in Britain, rather than from further afield. There was an almost complete absence of the scarcer *Plusias* and other tropical moths, but there were many reports of probably immigrant examples of resident species. The small numbers and late arrivals of immigrants also reduced the amount of successful local breeding, for which the warmth of July and August was otherwise favourable.

We have been well supported by good numbers of recorders, both direct and indirect, to whom we offer grateful thanks. Many of them, perhaps because of the paucity of scarcer immigrants, have given more detailed observations than usual of the commoner species, which have therefore been treated at greater length in this note.

### ANNEXE I

#### Names of direct recorders

Names of recorders who have sent their records to us directly are listed below. Many of them have included also records obtained from other observers, to whom we are grateful. It is not practicable to list all their names, but some of them appear in Annexe II.

Acklam, G.	Bradford, E. S.	Corley, M. H. V.
Agassiz, Rev. D. J. A.	Bretherton, I.	Costen, P.
Albertini, M. A.	Bretherton, R. F.	Craik, Dr. J. C. A.
Aldrich-Blake, Dr. P.	Briggs, J.	Cribb, P. W.
Aldridge, J. D.	Brown, D. C. G.	
Austen, R.	Bury, Dr. J. P.	
		Dewick, A. J.
		Dewick, S.
Baker, B. R.	Cade, M.	Dey, D.
Baker, P. J.	Campbell, J. L.	Dobson, A. H.
Baldwin, A. J.	Chalmers-Hunt, J. M.	Duddington, J.
Birchenough, R. F.	Church, S.	Dyke, R.
Bond, K. G. M.	Classey, E. W.	
Bowen, Mrs. D.	Collins, J. A.	Easterbrook, M. A.

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|-----------------------|---------------------|----------------------------|
| Else, G. R.           | Laidlaw, D.         | Revell, R. J.              |
| Emmet, A. M.          | Langmaid, Dr. J. R. | Riley, A.                  |
| Eveleigh, B. J.       | Lear, N. W.         |                            |
|                       | Lefevre, Miss H.    | Simpson, M. S. L.          |
| Fairclough, R.        | LePard, D.          | Singleton, R.              |
| Fenn, J. L.           | Lewis, Owen         | Skinner, B.                |
| Foley, M. J. Y.       | Lindley, Dr. L.     | Slade, B. E., A.M. & D. J. |
| Foster, A. J.         | Lorimer, R. I.      | Smith, E.G.                |
| Fraser, J. D.         | Lovell-Pank, R.     | Smith, Dr. F. H. N.        |
|                       | Luckens, Dr. C. J.  | Smith, Roger               |
|                       |                     | Softly, R. A.              |
| Gardner, A.           | MacNulty, Dr. B. J. | Sokoloff, P. A.            |
| Gascoigne-Pees, M. R. | Melling, T. M.      | Spalding, A.               |
| Gibson, C. W. D.      | Madge, S. C.        | Spence, B. R.              |
| Gill, N.              | Melling, T. M.      | Stallwood, B. R.           |
| Goater, B.            | Miller, J. R.       | Sterling, D. H.            |
| Green, J. E.          | Morgan, I. K.       | Sterling, M. J.            |
| Greenwood, J. A. C.   | Moore, B. W.        | Sterling, P. H.            |
|                       | Myers, Dr. A. A.    | Swanson, S.                |
|                       |                     | Tidmarsh, J. S. C.         |
| Hall, N. M.           |                     | Torlesse, A. D.            |
| Halsey, J. & M.       | Nash, S.            | Tubbs, R. S.               |
| Halstead, A. J.       |                     | Tucker, V.                 |
| Harman, T. W.         | Parsons, M. S.      | Tweedie, M. W. F.          |
| Harman, A. S.         | Peet, T. N. D.      |                            |
| Harper, Dr. M. W.     | Philp, E. G.        | Waring, P. M.              |
| Hart, C.              | Philpott, D. W.     | Walters, J. M.             |
| Haynes, R. F.         | Pilcher, R. E. M.   | Webb, Dr. N. R.            |
| Hollindale, P.        | Pittis, Rev. S. P.  | West, B. K.                |
| Holloway, P.          | Plant, C. W.        | Whitehead, P.              |
| Hulme, D.             | Pollard, Dr. E.     | Wilson, D. E.              |
|                       | Pooles, S. W.       | Wilson, J.                 |
|                       | Portland Bird       | Winter, P. Q.              |
| Johnston, A. F.       | Observatory         | Woiwod, I.                 |
| Jupp, C.              |                     | Wooltorton, H.             |
| Knill-Jones, S. A.    | Pratt, C. R.        |                            |
|                       |                     |                            |
| Kydd, D. W.           |                     | Youden, G. H.              |

## ANNEXE II

## Records of scarce immigrant species in 1984

Suspected immigrants of resident species are marked\*. Unless otherwise indicated, single examples are referred to. For nocturnal species dates are as far as possible of the beginning of the night. Names of direct recorders are abbreviated to their initials (see Annexe I), except where these are the same; names of these and of indirect recorders appear in full.

\*CAROPTRIA MARGARITELLUS D. & S. KENT E. Deal, 26.7 (GHY, *Ent. Rec.* 97: 27). Probably immigrant.

\*SITACHROA PALEALIS D. & S. CORNWALL W. Lizard, 1.8 (NMH). HANTS S. Winchester, 18.7, 30.7 (DHS). SUSSEX E. Peacehaven, 19.8 (CRP). Possibly immigrant.

\*EVERGESTIS EXTIMALIS Scop. CORNWALL W. Lizard, 23.8 (NMH). HANTS S. Winchester, 11.8 (DHS); Sway, 21.8 (ADT). Perhaps immigrant.

\*OSTRINIA NUBILALIS Hb. CORNWALL E. Trebrown-bridge, 17.7 (AS). ESSEX S. Bradwell-on-Sea, 9.7/29.9, fifty. (AJD, SD). SUSSEX E. Camber, 18.6 (MSP); Ninfield, n.e.d. (MSP); Peacehaven, 8.7/13.8, twelve (CPR). Possibly some immigrant, otherwise recent internal spread.

DIASEMIOPSIS RAMBURIALIS Dup. CORNWALL E. Trebrown-bridge, 2.9, 28.10, 29.10 (AS). Essex S. Matching, 13.7 (RF).

PALPITA UNIONALIS Hb. CORNWALL E. Sheviok, 29.10 (SCM). SURREY South Croydon, 17.8 (GAC).

\*HETEROGRAPHIS OBLITELLA Zell. BERKS. Wytham Wood, 19.8, 20.8 (PHS). DORSET. Portland, 19.8, 20.8 (NMH). Possibly immigrant, otherwise large extension of internal range.

\*PAPILIO MACHAON L. DORSET. Lodmoor, 20.6, 22.8, possibly escapes from Weymouth butterfly farm (MC); Radipole, 12.7 (per NRW); Stoborough, dead in a greenhouse (per NRW). HANTS. S. Pilly Hill, twelve larvae on garden carrot (*Southern Daily Echo*, 26.8, per BG). Possibly resulting from a female escape or release from nearby butterfly farm.

IPHICLIDES PODALIRIUS L. HEREFORD S. Near Ross-on-Wye, in a garden, 26.8, followed closely examined, and distinguished from *P. machaon*. No local rearing of the species known (Dr. P. Aldrich-Blake, by phone and *in litt.* 17.9). Probably immigrant with other species at that date.

PONTIA DAPLIDICE L. SOMERSET N. Weston-s-Mare, 7 and 8. 7, female watched and sketched on garden buddleia near the sea. Confirmed from sketch by RFB (Mrs K. Jones per NWL). HANTS. S. Fair Oak near Eastleigh, 16.7, male watched flying through garden (Paul Holloway, nature writer, in *Southampton Echo*, 12.12.84, confirmed *in litt.* 26.2.85).

\*GONEPTERYX RHAMNI L. ISLES OF SCILLY. Pendennis Head, St. Mary's 24.4, male flying south east along the coast (J. D. Aldridge, *in litt.* 4.9.84). The larval foodplants, *Rhamnus* sp. are not known to occur in Scilly, and examples of *C. crocea* and several continental birds were seen on the same day, so that it was more probably immigrant rather than straying from the Cornish mainland.

[CLOSSIANA DIA L. SURREY. North Downs, 24.8, male in good condition caught by Philip Cribb (per PWC). Later inquiries have revealed that c.50 nearly full grown larvae reared from continental stock were released on July 26 near the place of this capture.]

DANAUS PLEXIPPUS L. CORNWALL E. Downderry, 20.7, 7 p.m. on garden buddleia, clearly seen (R. Carter per FHNS and SCM). DORSET. Lodmoor, 19.7, possibly an escape from butterfly farm (MC).

NYMPHALIS ANTIOPA L. (8) BUCKS. Sentry Hill, Marlow, 26.8: no evidence of local escapes or releases (O.Wedd per VMA). ESSEX N. West Mersea, 27.9, in garden (Dr. D. Gray per RST). HANTS. S. Southampton, 6.8, on buddleia (T. Bernhead per CJL). HANTS N. Alton, 8.8 (D. Le Pard). LINCS N. Gibraltar Point, 6.8, seen trying to enter the bird observatory (R. Lambert, per J. Dudington). MIDDLESEX Grange Park, 25.9 (R. Dyke). SUSSEX E. Ninfield, 28/29.7, possibly a release (D. W. S. Elphick per CRP); Rye, 28.8, on quay side (MWFT).

N. POLYCHLOROS L. KENT E. Orlestone Forest, 27.7. (M. Enfield per EGP).

SATURNIA PYRI D. & S. HANTS. S. Swaythling, 24.8, fluttering in grass beside M.27. (K. Watson per BG). Probably the first British record. The species is found in France near the coast from Finisterre to Calvados; but it is not a recognised migrant, and the place and circumstances of capture suggest that it arrived through Southampton in a car or lorry, or was an escape from captivity.

\*SCOPULA RUBIGINATA Hufn. CORNWALL W. Lizard, 22.8, two at light with vast numbers of *A. gamma* (B. K. West, identity confirmed by JMC-H). The first Cornish record; probably immigrant, only known to be resident in East Anglia.

RHODOMETRA SACRARIA L. (66) BERKS. Aldermaston, 23.8 (M. Silver per BRB); Shrivenham, 12.9 (S. Nash, *Ent. Gaz.* 36:77); Faringdon, 2.11 (MFVC). BUCKS. Bernwood Forest, 5.9 (PMW). CORNWALL W. Lizard, 14.9 (AG). CORNWALL E. Trebrownbridge, 24.8, 2.9, 3.9, 7.9, the last two brown striped (AS); Sheviok, 24.8, two, 27.8, 1.9; Anthony, 28.9, by day on saltmarsh (SCM). DEVON S. Yarner Wood, 20.8, 25.8, 27.8, 2.9, two (per IW and AR). DORSET. Portland B.O., 24.8 (per NMH). DURHAM Chester-le-Street, 2.9 (per IW and AR). ESSEX S.

Bradwell-on-Sea, 10.8 (SD). HANTS. N. Oakley, 24.8, worn female, eggs infertile (AHD). HANTS S. Hayling Island, 25.8, two (JMW). HERTS. Potters Bar, 28.9 (R-LP). KENT W. Dartford, 4.8., male (BKW). MIDDLESEX Hampstead 7.9 (RAS). SURREY Wisley, 2.9 (AJH); Leigh, 8.8, very worn, 25.8, fresh 7.10 (RF). SUSSEX W. West Dean, 25.7 (C. Robinson per CRP); Rogate, 30.7, 1.9, 16.10, f. *sanguinaria* (JACG); Walberton, 21.9, 28.9, two (J. Radford per CRP). SUSSEX E. Ringmer, 8.8 (A. Batten per CRP); Peacehaven, 6.9 (CRP). WARWICKS. Charlecote, 2.9 (DCGB); Pailton near Rugby, 7.9, 8.9, two (Dr. Greenwood per DCGB). WESTMORLAND/FURNESS South Walney, 6.9, three, 7.9, 8.9, 13.9 (T. Dean per DWK). YORKS v.c. 61 Muston, 7.9, on lighted window (PQW). CARMARTHEN Rhandirmwyn, 24.8 (per IW and AR). CO. CORK Fountainstown, 23.8, male, 12.9, 22.9 (AAM). CO. WICKLOW Bray Head, 25.8, brown lined (KGMB). GUERNSEY Le Chene, 23.8, 26.8, 8.9 (TNDP); Clare Mare, 2.9, 9.9 (P. Costen); St. John, 26.8; L'Ancrese, 26.8; Icart, 27.8 (R. Austen).

ORTHONAMA OBSTIPATA F. (9) CORNWALL E. Trebrow-bridge, 1.11 (AS). DEVON S. Yarner Wood, 28.7; Star Cross, 2.11 (per IW and AR). SUSSEX W. Walberton, 2.11, two, 9.11, 11.11 (J. Radford per CRP). SUSSEX E. Newhaven 21.4 (S. Curson per CRP). ESSEX S. Bradwell-on-Sea, 8.10 (SD).

SEMIOTHISA SIGNARIA Hb. KENT E. Orlestone Forest, 31.7 (JLF, *Ent. Rec.*, 96:215; idem, *Proc. Trans. Br. ent. nat. Hist. Soc.*, 18:9).

(to be concluded)

## Notes and Observations

FERAL FOODPLANTS OF LITHOPHANE LEAUTIERI HESPERICA BOURSIN (BLAIR'S SHOULDER-KNOT). — Since October 1979 when the first specimen of *L. leautieri* appeared in the garden trap this species has steadily increased in numbers up to 1984 when over 40 specimens were recorded between 2nd October and 12th November with a maximum total for one night being 12 on 15th October.

In view of these numbers and as the only previously recorded foodplant in Britain, *Cupressus macrocarpa* (Monterey Cypress), is absent from the immediate district it was logical to assume the species was breeding locally on other members of the Cypress family. This assumption was confirmed on 14th June 1985 by beating the well established (20-25ft high) Cypress trees in my own garden, made up of eight of the hybrid *Cupressocyparis leylandii* (Leyland Cypress) and seven *Chamaecyparis lawsoniana* (Lawson's Cypress). A somewhat cursory beat of the lower (up to six feet) branches yielded a few larvae from each of the *leylandii*, but none from the